APPENDIX B

Proposed OWTS Regulations and Conditional Waiver

AB 885 Regulations

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TITLE 27. ENVIRONMENTAL PROTECTION
DIVISION 5. STATE WATER RESOURCES CONTROL BOARD
CHAPTER 1. ONSITE WASTEWATER TREATMENT SYSTEMS (OWTS)
ARTICLE 1. GENERAL PROVISIONS

§30000. SWRCB – Definitions.

Except as otherwise indicated in this Article, definitions of terms used in the SWRCB-promulgated portions of this Chapter shall be those set forth in Division 7 (commencing with Section 13000) of the Water Code and Chapter 6.5 of Division 20 of the Health and Safety Code (commencing with Section 25100).

"**At-grade system**" means an OWTS dispersal system with a discharge point located at the preconstruction grade (ground surface elevation). The discharge from an at-grade system is always subsurface.

"**Basin plan**" means the same as "water quality control plan" as defined in Division 7 (commencing with Section 13000) of the Water Code. Basin plans are adopted by each Regional Water Board, approved by the SWRCB and the Office of Administrative Law, and identify surface water and groundwater bodies within each Region's boundaries and establish, for each, its respective beneficial uses and water quality objectives. Copies are available from the Regional Water Boards.

"**Bedrock**" means the rock, usually solid, that underlies soil or other unconsolidated, surficial material.

"**Certification**" means an expression of professional opinion in the form of a certificate, stamp, or signature that the OWTS, or its components, meets industry standards that are the subject of the certification, but does not constitute a warranty or guarantee, either express or implied. For proprietary supplemental treatment systems, certification is a statement that indicates the subject system has demonstrated performance through an independent, third-party evaluation of performance data as required in §30013(e), but does not constitute a warranty or guarantee, either express or implied.

"**Cesspool**" means an excavation in the ground receiving wastewater, designed to retain the organic matter and solids, while allowing the liquids to seep into the soil. Cesspools differ from seepage pits because cesspool systems do not have septic tanks.

"**Clay**" means a soil particle; the term also refers to a type of soil texture. As a soil particle, clay consists of individual rock or mineral particles in soils having diameters <0.002 mm in diameter. As a soil texture, clay is the soil material that is comprised as 40 percent or more clay particles and not more than 45 percent sand and not more than 40 percent silt particles.

"**Community water supply**" means a public water system regulated by the California Department of Public Health or a local health department.

"**Conventional system**" means an OWTS consisting of a septic tank and a subsurface system for dispersal of septic tank effluent. A gravity subsurface dispersal system may be a leachfield or seepage pit. A conventional system may include septic tank effluent pumping where the dispersal area is located at a higher elevation than the associated septic tank or to accomplish uniform distribution. Properly sited, designed, installed and operated conventional systems are capable of nearly complete removal of suspended solids, biodegradable organic compounds and fecal coliform bacteria. However, other pollutants may not be removed to acceptable levels. Conventional systems can be expected to remove no more than 10 to 40% of the total nitrogen compounds (TN) in domestic wastewater after final soil treatment.

"**Dispersal system**" means a leachfield, seepage pit, mound, at-grade, subsurface drip field, evapotranspiration and infiltration bed, or other type of system for final wastewater treatment and subsurface discharge.

"**Domestic wastewater**" means the type of wastewater normally discharged from, or similar to, that discharged from plumbing fixtures, appliances and other household devices including, but not limited to toilets, bathtubs, showers, laundry facilities, dishwashing facilities, and garbage disposals. Domestic wastewater does not include wastewater from industrial processes other than inputs considered *de minimis* (less than 5 percent).

"**Domestic well**" means a groundwater well that provides water for human consumption and is not regulated by the California Department of Public Health.

"**Dosing tank**" means a watertight receptacle located between an OWTS treatment unit (i.e., septic tank or supplemental treatment unit) and a dispersal area equipped with an automatic siphon device or pump designed to discharge wastewater intermittently in the distribution lines in amounts proportioned to the capacity of such lines and to provide adequate rest periods between such discharges.

"**Earthen material**" means a substance composed of the earth's crust (i.e., soil and rock).

"**EDF**" see "electronic deliverable format."

"**Effluent**" means the wastewater discharged from an OWTS treatment component or any portion thereof.

"**Electronic deliverable format**" or "**EDF**" means the data standard adopted by the SWRCB for submittal of groundwater quality monitoring data to the SWRCB's internet-accessible database system.

"**Engineered Fill**" means soil that meets the criteria in Table 3 in §30014.

"**Escherichia coli**" means a group of bacteria used as an indicator of fecal pollution.

"**ETI**" see "Evapotranspiration and infiltration bed."

"**Evapotranspiration and infiltration (ETI) bed**" means a subsurface dispersal bed in which soil capillarity and root uptake help to disperse the effluent from a septic tank or supplemental treatment system through surface evaporation, soil absorption, and plant transpiration.

"**Existing OWTS**" means an OWTS that was either permitted by the applicable local agency or legally installed before the effective date of this Chapter.

"**Fines**" are soil particles with a diameter less than 0.05 millimeters. Fines consist of silt- or clay-sized particles.

"Gravel-less chamber" system means a buried structure used to create an aggregate-free absorption area for infiltration and treatment of wastewater.

"**Grease interceptor**" means a passive interceptor that has a rate of flow exceeding 50 gallons-per-minute and that is located outside a building. Grease interceptors are used for separating and collecting grease from wastewater.

"**Groundwater**" means water below the land surface that is at or above atmospheric pressure.

"**High-strength waste**" means wastewater having a 30-day average concentration of biochemical oxygen demand (BOD) greater than 250 milligrams-per-liter (mg/L) or of total suspended solids (TSS) greater than 150 mg/ L after the septic tank or other OWTS treatment component and before the dispersal system.

"**Impaired Water Bodies**" means those surface water bodies or segments thereof that are identified on a list approved first by the SWRCB and then approved by US EPA pursuant to Section 303(d) of the federal Clean Water Act.

"**Major repair**" means any repair required for an OWTS due to surfacing wastewater effluent.

"**Memorandum of understanding**" (MOU) means a formal agreement between the Regional Water Board and a local agency. The agreement authorizes the local agency to administer the OWTS discharge program in lieu of direct State regulation of discharges from OWTS.

"**Mottling**" means a soil condition that results from oxidizing or reducing minerals due to soil moisture changes from saturated to unsaturated over time. Mottling is characterized by spots or blotches of different colors or shades of color (grays and reds) interspersed within the dominant color as described by the United States Department of Agriculture soil classification system. This soil condition can be indicative of historic seasonal high groundwater level, but the lack of this condition may not demonstrate the absence of groundwater.

"**MOU**" see "Memorandum of understanding."

"**Mound system**" means an aboveground dispersal system (covered sand bed with effluent leachfield elevated above original ground surface inside) used to enhance soil treatment, dispersal, and absorption of effluent discharged from an OWTS treatment unit such as a septic tank. Mound systems have a subsurface discharge.

"**NELAP Accredited**" means an accreditation for laboratories issued by a state government program in which that laboratory resides or through the National Environmental Laboratory Accreditation Program.

"**New Lot**" means a lot recorded after the effective date of this Chapter.

"**New OWTS**" means an OWTS permitted after the effective date of this Chapter.

"**Onsite wastewater treatment system(s)**" (**OWTS**) has the same meaning as found in §13290 of the California Water Code. The short form of the term may be singular or plural.

"**Percolation test**" means a method of testing water absorption of the soil. The test is conducted with clean water and test results can be used to establish the dispersal system design.

"**Performance requirements**" means the maximum allowable concentrations of BOD, TSS, total nitrogen (TN), or total coliform resulting from the active treatment of domestic wastewater from an OWTS.

"**Permit**" means a document that allows the installation and use of an OWTS. The term refers to any one of the following:

1. A conditional waiver of waste discharge requirements issued by the SWRCB or a Regional Water Board;
2. Waste discharge requirements issued by a Regional Water Board or the SWRCB; or
3. A document, so named, issued by a local agency that is operating under an MOU or other agreement with a regional water board or SWRCB pursuant to these regulations.

"**Person**" means any individual, firm, association, organization, partnership, business trust, corporation, company, State agency or department, or unit of local government who is, or that is, subject to this Chapter.

"**Pollutant**" means any substance that alters water quality of the waters of the State to a degree that it may potentially affect the beneficial uses of water, as listed in a basin plan.

"**Pressure distribution**" means a type of dispersal system employing a pump or automatic siphon and distribution piping with small diameter perforations (1/4 of an inch of less) or drip emitters to introduce effluent into the soil with uniform distribution.

"**Qualified professional**" means an individual licensed or certified by a State of California agency to design and construct OWTS, including an individual who possesses a registered environmental health specialist certificate or is currently licensed as a professional engineer or professional geologist.

"**Record Plan**" means the document prepared by either a qualified professional or person authorized to install OWTS pursuant to §30002(g). Record plans detail the "as-built" installation of the OWTS, including but not limited to final placement of an OWTS its components, sizes and the specifications of components.

"**Replaced OWTS**" means an OWTS that has its treatment capacity expanded, or its dispersal system replaced, after the effective date of this Chapter.

"**Rock**" means any naturally formed aggregate of one or more minerals (e.g., granite, shale, marble); or a body of undifferentiated mineral matter (e.g., obsidian), or of solid organic matter (e.g., coal) that is greater than 0.08 inches (2mm) in size.

"**Sand**" means a soil particle; this term also refers to a type of soil texture. As a soil particle, sand consists of individual rock or mineral particles in soils having diameters ranging from 0.05 to 2.0 millimeters in diameter. As a soil texture, sand is soil that is comprised of 85 percent or more sand particles, with the percentage of silt plus 1.5 times the percentage of clay particles comprising less than 15 percent.

"**Seepage pit**" means a drilled or dug excavation, three to six feet in diameter, either lined or gravel filled, that receives the effluent discharge from a septic tank or other OWTS treatment unit for dispersal.

"**Septic tank**" means a watertight, covered receptacle designed for primary treatment of wastewater and constructed to:

1. Receive wastewater discharged from a building;
2. Separate settleable and floating solids from the liquid;
3. Digest organic matter by anaerobic bacterial action;
4. Store digested solids; and
5. Clarify wastewater for further treatment with final subsurface discharge.

"**Septic tank effluent**" means wastewater discharged from a septic tank.

"**Service provider**" means a person capable of operating, monitoring, and maintaining an OWTS consistent with the requirements and responsibilities in §30002(j), §30013(g), §30013(h), §30014(f), and the O&M manual or capable of inspecting a septic tank in accordance with §30002(u) of this Chapter.

"**Shallow dispersal system**" means a dispersal system designed to apply wastewater at the upper layer of the soil column using pressure distribution.

"**Silt**" means a soil particle; this term also refers to a type of soil texture. As a soil particle, silt consists of individual rock or mineral particles in soils having diameters ranging from between 0.05 and 0.002 mm in diameter. As a soil texture, silt is soil that is comprised as approximately 80 percent or more silt particles and not more than 12 percent clay particles.

"**Site**" means the location of the OWTS and, where applicable, a reserve dispersal area capable of disposing 100 percent of the design flow from all sources the OWTS is intended to serve.

"**Site Evaluation**" means an assessment of the characteristics of the site sufficient to determine its suitability for an OWTS to meet the requirements of this Chapter.

"**Soil**" means the naturally occurring body of porous mineral and organic materials on the land surface, which is composed of unconsolidated materials, including sand-sized, silt-sized, and clay-sized particles mixed with varying amounts of larger fragments and organic material. The various combinations of particles differentiate specific soil textures identified in the soil textural triangle developed by the United States Department of Agriculture (USDA) as found in Soil Survey Staff, USDA; **Soil Survey Manual, Handbook 18**, U.S. Government Printing Office, Washington, DC, 1993, p. 138. For the purposes of this chapter, soil shall contain earthen material of particles smaller than 0.08 inches (2 mm) in size.

"**Soil permeability**" means a measure of the ability of a soil to transmit liquids.

"**Soil texture**" means the soil class that describes the relative amount of sand, clay, silt and combinations thereof as defined by the classes of the soil textural triangle developed by the USDA (referenced above).

"**Supplemental treatment**" means any OWTS or component of an OWTS, except a septic tank or dosing tank that performs additional wastewater treatment so that the effluent meets the performance requirements of **§**30013 prior to discharge of effluent into the dispersal field.

"**Telemetric**" means the ability to automatically measure and transmit OWTS data by wire, radio, or other means.

"**TMDL**" is the acronym for "total maximum daily load." Section 303(d)(1) of the Clean Water Act requires each State to establish a TMDL for each impaired water body to address the pollutant(s) causing the impairment. In California, TMDLs are usually adopted as Basin Plan amendments.

"**Total coliform**" means a group of bacteria consisting of several *genera* belonging to the family *Enterobacteriaceae*, which includes Escherichia coli bacteria.

"**Waste discharge requirement**" or "WDR" means an operation and discharge permit issued for the discharge of waste pursuant to Section 13260 of the California Water Code.

Authority Cited: CA Water Code § 13291, § 1058.

Reference: CA Water Code § 13291(b).

§30001. SWRCB – Applicability.

(a) This Chapter establishes minimum requirements for the permitting, monitoring, and operation of OWTS for preventing conditions of pollution and nuisance. Regional Water Boards and local agencies implementing the OWTS regulations may establish requirements for OWTS that are more protective of water quality than the requirements contained in this Chapter.

(b) This Chapter applies to all new OWTS. Requirements in this Chapter apply to existing OWTS only where specifically indicated.

(c) No person shall do any of the following without first notifying the Regional Water Board:

(1) operate a new or existing OWTS with the capacity to treat over 3,500 gallons-per-day that has been relocated, expanded, repaired or replaced;

(2) increase the average pollutant loading of the waste stream entering an OWTS with the capacity to treat over 3,500 gallons-per-day;

(3) change the nature (e.g., from domestic to commercial) of the waste stream entering an OWTS; or

(4) discharge wastewater at greater volumes than the design flow into an OWTS.

(d) This Chapter may be implemented through conditional waivers of WDRs by the SWRCB or Regional Water Boards.

(e) Regional Water Boards may adopt waste discharge requirements that exempt individual OWTS from requirements contained in this Chapter.

(f) A local agency may implement this Chapter, or a portion thereof, as authorized by the SWRCB or by a Regional Water Board through agreement, adopted resolution, or Memorandum of Understanding (MOU). Any MOU, adopted resolution, or similar agreement must require compliance with these regulations and the applicable Regional Water Board basin plan.

Authority Cited: CA Water Code §1058, 13291

Reference: CA Water Code §13291(d), 13291(e)

§30002. SWRCB – General Requirements.

(a) New OWTS and replaced OWTS shall be operated to accept and treat flows of domestic wastewater, excluding any material not generally associated with household activities (including, but not limited to, toilet flushing, food preparation, laundry, household cleaning including drain cleaning, and personal hygiene). Additionally, OWTS may be designed and operated to accept other wastewater from facilities that:

(1) exclude hazardous waste, as defined in Section 66260.10 of Title 22 of the California Code of Regulations;

(2) reduce high strength wastewater to below a 30-day average concentration of 250 mg/L BOD and 150 mg/L TSS effluent and prior to discharge to the septic tank; or

(3) use waste segregation practices and systems to reduce pollutant concentrations entering the OWTS to domestic wastewater levels.

(b) New OWTS and replaced OWTS shall be designed to disperse effluent to subsurface soils in a manner that maximizes unsaturated zone treatment and aerobic decomposition of soluble and particulate organic compounds and other pollutants in the effluent.

(c) New OWTS shall be designed, operated and maintained in accordance with the requirements of this Chapter.

(d) The design of new and replaced OWTS shall be based on the expected influent wastewater quality, the wastewater quantity, the characteristics of the site, and the required level of treatment for protection of water quality and public health.

(e) A qualified professional shall perform all necessary soil and site evaluations for all new OWTS and for existing OWTS where the treatment or dispersal system will be replaced or expanded.

(f) A qualified professional shall design all new OWTS and existing OWTS where the treatment or dispersal system will be replaced or expanded. A qualified professional employed by a local agency, while acting in that capacity, may review, design, and approve a design for a proposed conventional OWTS.

(g) A Licensed General Engineering Contractor (Class A), General Building Contractor (Class B), Sanitation System Contractor (Specialty Class C-42), or Plumbing Contractor (Specialty Class C-36) shall install all new OWTS and replaced OWTS in accordance with California Business and Professions Code Sections 7056, 7057, and 7058 and Article 3, Division 8, Title 16 of the California Code of Regulations. A property owner may also install his/her own OWTS if the as-built diagram and the installation are inspected and approved by the Regional Water Board or

authorized local agency at a time when the OWTS is in an open condition (not covered by soil and exposed for inspection).

(h) Materials in concentrations that are deleterious and inhibiting to OWTS operations shall not be discharged to an OWTS. Deleterious and inhibiting materials include the following:

(1) any biocide, or

(2) all products and matters defined in Chapter 41, Division 4.5, Title 22 in the California Code of Regulations.

(i) The owner of any site on which a new OWTS or replaced OWTS is located shall have an operation and maintenance (O&M) manual prepared by a qualified professional. O&M manuals shall include, at a minimum:

(1) the name, address, telephone number, business and professional license number of the OWTS designer;

(2) the name, address, telephone number, business and professional license number, where applicable, of the OWTS installer;

(3) the name, address, and telephone number of the service provider that maintains any supplemental treatment system;

(4) instructions for proper operation and maintenance and a protocol for assessing performance of the OWTS;

(5) the Record Plan with a certification that the dispersal system meets all applicable requirements contained in §30014(a);

(6) the design flow and performance requirements for the OWTS;

(7) a list of types of substances that could inhibit performance if discharged to the OWTS, including those applicable to (h);

(8) a list of substances that could cause a condition of pollution or nuisance if discharged to the OWTS, including but not limited to pharmaceutical drugs and water softener regeneration brines; and

(9) a copy of the SWRCB or Regional Water Board waiver or waste discharge requirements applicable to the system.

(j) Each owner of a new OWTS with supplemental treatment components or existing OWTS with supplemental treatment components (see §30013) shall maintain, in addition to the O&M manual and record plan, a contract with a service provider to ensure that the OWTS is operated, maintained and monitored as designed.

(k) The owner shall retain a Record Plan and an O&M manual for any new or replaced OWTS upon completion of an OWTS installation. Upon the sale of a site, it is the obligation of the owner of the site to provide the buyer, through escrow or otherwise, a complete copy of the O&M manual and record plan for the OWTS at the site.

(l) The owner shall retain all inspection records pertaining to their OWTS for a minimum of five years.

(m) Cesspools shall not be used for new or replaced OWTS.

(n) All new or replaced septic tanks and new or replaced grease interceptor tanks shall comply with the standards contained in Sections K5(b), K5(c), K5(d), K5(e), K5(k), K5(m)(1), and K5(m)(3)(ii) of Appendix K, of Part 5, Title 24 of the 2007 California Code of Regulations.

(o) All new septic tanks shall comply with the following requirements:

(1) Access openings shall have watertight risers and shall be set within 6 inches of finished grade; and

(2) Access openings shall be secured to prevent unauthorized access.

(p) The installation of new prefabricated septic tanks shall be limited to those approved by the International Association of Plumbing and Mechanical Officials (IAPMO) and their installation shall be installed according to the manufacturer's instructions. If IAPMO certified tanks are not available locally, other prefabricated tanks may be allowed only if they comply with subsection (q) below.

(q) New non- prefabricated tanks or prefabricated tanks not certified by IAPMO shall be installed only after the design is stamped and certified by a California registered civil engineer as meeting the industry standards necessary to comply with these requirements;

(r) New and replaced OWTS septic tanks shall be designed to prevent solids in excess of three-sixteenths (3/16) of an inch in diameter from passing to the dispersal system. Septic tanks that use a National Sanitation Foundation/American National Standard Institute (NSF/ANSI) Standard 46 certified septic tank filter at the final point of effluent discharge from the OWTS and prior to the dispersal system shall be deemed in compliance with this requirement. All documentation received as a result maintenance on effluent filters shall be retained for five years.

(s) OWTS owners with an onsite domestic well on their property must monitor groundwater by sampling and analyzing water from:

(1) a monitoring well designed to measure the effect of the OWTS discharge, located down-gradient and within 100 feet of the OWTS dispersal system. For existing OTWS with domestic wells, sampling shall take place within 5 years of the effective date of this chapter and no less than every fifth year thereafter. For new OWTS, sampling shall take place within 30 days following the installation of the new OWTS and every fifth year thereafter. Samples shall not be taken earlier than six months prior to the end of every five year sampling period; or

(2) an existing onsite domestic well on the property. For existing OTWS with domestic wells, sampling shall take place within 5 years of the effective date of this chapter and no less than once every fifth year thereafter. For new OWTS with a domestic well, sampling shall be conducted within 30 days following the installation of a new OWTS and no less than once every fifth year thereafter. Samples shall not be taken earlier than six months prior to the end of every five year sampling period.

Groundwater analyses shall be conducted in accordance with (t). Existing OWTS and new OWTS installations shall be exempt from this requirement if the facility that the OWTS serves is provided water from a community water supply system.

(t) The owner or owner's authorized representative shall collect groundwater samples pursuant to (s) and shall have them analyzed by a laboratory certified by the California Department of Health Services. The laboratory shall be capable of producing laboratory results in EDF format. The groundwater samples shall be analyzed for the following: calcium (Ca), magnesium (Mg), sodium (Na), potassium (K), iron (Fe), manganese (Mn), zinc (Zn), sulfate (SO_4), chloride (Cl), nitrate (NO_3), nitrite (NO_2), fluoride (F), TDS, total alkalinity (as $CaCO_3$), carbonate (CO_3), bicarbonate (HCO_3), MBAS (methylene blue active substances), pH and total coliforms. If a sample tests positive for total coliforms, the sample shall be analyzed for Escherichia coli bacteria. The name of the site owner, the site address and the laboratory results shall be transmitted to the SWRCB in EDF format. The names and addresses of owners of tested domestic wells shall not be released.

(u) Any person owning a septic tank shall obtain a report of inspection from a service provider a minimum of once every five years. The inspection report shall verify that the level of settleable solids and/or floatable solids do not impair the performance of the septic tank. It is recommended that septic tanks be pumped if the sum of the scum depth and sludge depth exceeds 25% of the septic tank depth as measured from the water line to the bottom of the tank.

(v) The SWRCB recommends that the regenerating saline backwash from water softeners not be discharged either to the OWTS or to the ground in any manner.

(w) Surfacing effluent is prohibited. In cases of violation of this prohibition, a major repair shall be conducted by a service provider or qualified professional. Such corrective action shall be commenced within 30 days of reported violation, and must be completed within 90 days. The Regional Board may exempt a property from the 90-day requirement and extend the time frame, but such exemptions shall not extend beyond 180 days.

Authority Cited: CA Water Code §1058, 13291

Reference: CA Water Code §13267, 13291(d), 13291(e)

ARTICLE 2. GROUNDWATER LEVEL DETERMINATIONS FOR NEW OWTS

§30012 SWRCB – Groundwater Level Monitoring.

(a) A site evaluation shall be conducted by a qualified professional to determine the depth to the seasonal high groundwater, unless the seasonal high groundwater level at the site has previously been determined to be greater than

10 feet below the ground surface. Such a finding may be based upon the following sources: previous evaluations or studies, or well driller information.

(b) Soil mottling observed during the site evaluation by a qualified professional may be used to determine the seasonal high groundwater level. Where soil mottling observations cannot be made or lead to unreliable conclusions, a qualified professional shall use the following protocols to determine seasonal high groundwater prior to design and installation of an OWTS:

(1) To measure depth to seasonal high groundwater, a groundwater level monitoring well shall be installed to a minimum depth of ten feet in the vicinity of a proposed wastewater dispersal system. If an impermeable layer is present at a depth of less than ten feet below the ground surface, the depth of the groundwater level monitoring well shall be decreased to the depth of the impermeable layer.

(2) For OWTS serving facilities other than single family homes, the SWRCB or Regional Water Board shall determine the number and depth of groundwater level monitoring wells. Such determinations by the Regional Water Board shall supercede the depth requirements in (b)(1).

(3) Measurements of depth to seasonal high groundwater shall be conducted between November 1 and April 1 unless otherwise specified by the Regional Water Board. Groundwater levels shall be measured continuously using a piezometer to record the seasonal high groundwater level. The piezometer may be a float device that mechanically or electrically records the highest water level.

(4) For areas that are subject to special circumstances such as seasonal high groundwater caused by snowmelt or irrigation, measurements to determine the annual high groundwater level shall be conducted during a period specified by the Regional Water Board. Groundwater levels shall be measured in the same manner as specified in (b)(3) above.

(5) The Regional Water Board may exempt sites or areas from this Section where an alternative protocol for determining seasonal high ground water is established in the basin plan.

Authority Cited: CA Water **Code §1058, 13291**

Reference: CA Water Code §13260, 13264, 13267, 13269, and 13291

ARTICLE 3 PERFORMANCE REQUIREMENTS AND SPECIFICATIONS

§30013. SWRCB – Performance Requirements for Supplemental Treatment Components.

(a) Local agencies or the Regional Water Board may require supplemental treatment systems for any existing or new OWTS where treatment is needed to mitigate for insufficient soil depths or to provide for protection of the water quality and public health. Required soil depths are set forth in §30014(c) for a conventional system or §30014(d) for a dispersal system with supplemental treatment components.

(b) Supplemental treatment components, other than for disinfection or nitrogen reduction, shall be designed to reduce biochemical oxygen demand (BOD) and total suspended solids (TSS) concentrations. Supplemental treatment components, other than for disinfection or nitrogen reduction, shall produce an effluent that meets the following requirements:

(1) The 30-day average carbonaceous BOD (CBOD) concentration shall not exceed 25 milligrams per liter (mg/L), or alternately, the 30-day average BOD shall not exceed 30 mg/L; and

(2) The 30-day average TSS concentration shall not exceed 30 mg/L.

(c) Supplemental treatment components designed to perform disinfection shall provide sufficient pretreatment of the wastewater so that effluent does not exceed a 30-day average TSS of 10 mg/L and shall further achieve an effluent total coliform bacteria concentration, at the 95 percentile, no greater than either of the following;

(1) 10 Most Probable Number (MPN) per 100 milliliters prior to discharge into a dispersal field where the soils exhibit percolation rates between 1 and 10 minutes per inch (MPI) or where the soil texture is sand; or

(2) 1000 MPN per 100 milliliters prior to discharge into a dispersal field where the soils exhibit percolation rates greater than 10 MPI or consist of a soil texture other than sand.

(d) Effluent from supplemental treatment components designed to reduce nitrogen shall not exceed a 30-day average TN concentration of 10 mg/L as nitrogen.

(e) Before the installation of any proprietary supplemental treatment OWTS, all such treatment components shall be tested by an independent third party testing laboratory. The independent third party laboratory shall certify that the type of system being installed and its components are capable of reliably meeting applicable performance requirements when installed according to design and manufacturer specifications, based upon the results from the testing protocol. The testing protocol shall include but is not limited to the following:

(1) a testing duration of not less than six continuous months;

(2) the minimum number of sample days shall not be less than 96 days;

(3) All samples shall be analyzed by a NELAP accredited laboratory.

(4) the wastewater used for testing shall consist primarily of municipal or domestic wastewater and shall have concentrations in the following ranges:

(A) BOD: 125 milligrams per liter or greater;

(B) TSS: 125 milligrams per liter or greater;

(C) TN (as N): 50 milligrams per liter or greater,

(D) total coliform bacteria: $1X10^6$ MPN/100 ml or greater, and

(E) alkalinity (as $CaCO_3$): 50 milligrams per liter or greater.

(5) hydraulic and organic design loading shall be varied during the test to simulate OWTS operational stress at different levels of use, including all of the following:

(A) regular daily use, where the following daily wastewater flow regime entering the supplemental treatment system is as follows:

i) approximately 35% of the daily wastewater design flow enters the OWTS from 6:00 a.m. to 9:00 a.m.

ii) approximately 25% of the daily wastewater design flow enters the OWTS from 11:00 a.m. to 2:00 p.m.

iii) approximately 40% of the daily wastewater design flow enters the OWTS from 5:00 p.m. to 8:00 p.m.

(B) vacation (e.g., one week rest) no sooner than two weeks after testing commencement and no later than two weeks before test termination.

(6) testing of supplemental treatment components to comply with the performance requirements of (b), (c) or (d) shall be conducted with the following detection limits listed in Table 1:

TABLE 1
DETECTION LIMITS FOR WASTEWATER CONSTITUENTS

Parameter	Detection Limit
BOD	2 mg/L
TSS	5 mg/L
Total Coliform	2.2 MPN
Total Nitrogen	1 mg/L

(f) The ongoing monitoring of supplemental treatment components designed to meet the performance requirements of (b), (c) or (d) shall be monitored in accordance with the operation and maintenance manual for the OWTS or more frequently as required by the Regional Water Board.

(g) OWTS with supplemental treatment components shall be equipped with a visual or audible alarm as well as a telemetric alarm that alerts the owner and service provider in the event of system malfunction. OWTS using supplemental treatment shall, at a minimum, provide for 24-hour wastewater storage based on design flow as a means to minimize pollution from overflow discharge after a system malfunction or power outage.

(h) OWTS designed to meet the disinfection performance requirements outlined in (c) shall be inspected for proper operation weekly by a service provider unless a telemetric monitoring system is capable of continuously assessing the operation of the disinfection system. Testing of effluent from supplemental treatment components that perform disinfection shall be conducted quarterly based on analysis of total coliform with a minimum detection limit of 2.2 MPN. Effluent samples shall be taken by a service provider and analyzed by a California Department of Health Services certified laboratory.

Authority Cited: CWC 1058, 13291.

Reference: CA Water Code §13260, 13264, 13267, 13269, and 13291

§30014. SWRCB – Dispersal Systems

Any dispersal system that is part of a new OWTS shall meet the following requirements:

(a) Dispersal systems shall be designed and installed at the shallowest practicable depth to maximize elements critical to effective treatment of effluent in the soil. Elements critical to effective treatment include oxygen transfer, biological treatment, evapotranspiration and vegetative uptake of nutrients.

(b) Dispersal systems, except those addressed in (i) and (k) below, shall be designed using only the bottom area of the dispersal system as the infiltrative surface. The infiltrative surface shall be sized using the design application rates contained in either Table 2 or Figure 1.

(c) Dispersal systems of all conventional OWTS shall have at all times during operation at least three feet of continuous unsaturated, undisturbed, earthen material with less than 30 percent of that material by weight containing mineral particles in excess of 0.08 inches (2 mm) in size (i.e., rock) below the bottom of the dispersal system. Where greater than 30 percent of the undisturbed earthen material exceeds 0.08 inches (2 mm) in size, pressure distribution shall be used to disperse the OWTS effluent and either of the following shall apply:

  (1) the minimum depth of unsaturated, undisturbed earthen material required shall be determined using Figure 2; or

  (2) the application rate as shown in Table 2 or Figure 1 shall be reduced by the same percentage as that of the earthen materials in excess of 0.08 inches (2 mm) at the dispersal area.

(d) Dispersal systems of all OWTS with supplemental treatment components shall have at all times during operation at least two feet of continuous unsaturated, undisturbed, earthen material with less than 30 percent of that material consisting of mineral particles in excess of 0.08 inches (2 mm) in size (i.e., rock) below the bottom of the dispersal system. Where greater than 30 percent of the undisturbed earthen material exceeds 0.08 inches (2 mm) in size, pressure distribution shall be used to disperse the OWTS effluent and either of the following shall apply:

  (1) the minimum depth of unsaturated, undisturbed earthen material required shall be determined using Figure 2; or

  (2) the application rate as shown in Table 2 or Figure 1 shall be reduced by the same percentage (by weight) as that of the earthen materials in excess of 0.08 inches (2 mm) at the dispersal area.

(e) Where undisturbed earthen material has insufficient depth to satisfy the minimum depth requirements in (c) or (d), engineered fill as defined herein may be added to existing site soils so that the site exceeds the specified soil depth requirements. Engineered fill (i.e., sand or crushed glass) shall meet the specifications contained in Table 3. Engineered fill shall compensate for the lack of in-place earthen material at a 1.5 to 1 basis so that a one foot deficiency in the soil column depth would require one and one half feet of engineered fill material. A pressure distribution system is required where engineered fill is used to comply with the minimum earthen material depth requirements. In no case shall engineered fill compensate for more than one foot of the minimum native soil depth requirements in (c) or (d).

(f) Conventional OWTS dispersal systems in which pumps are used to move effluent from the septic tank to the dispersal system shall be equipped with one of the following: a visual, audible, or telemetric alarm that alerts the owner or service provider in the event of pump failure. All pump systems shall, at a minimum, provide for storage in the pump chamber during a 24-hour power outage or pump failure and shall not allow an emergency overflow discharge.

(g) All dispersal systems shall have at least six (6) inches of soil cover.

(h) In no case shall a vehicle drive or be placed over the dispersal system.

(i) Gravel-less chambers shall meet the requirement for conventional dispersal systems contained in (c) and (d). The infiltrative surface shall be sized using the area beneath the open portion of the chamber (not including area beneath the base of support or outside the chamber) and using the design application rates contained in either Table 2 or Figure 1. The design infiltrative surface area of such a system may be reduced to no less than seventy percent (70%) of the area required for a conventional dispersal system.

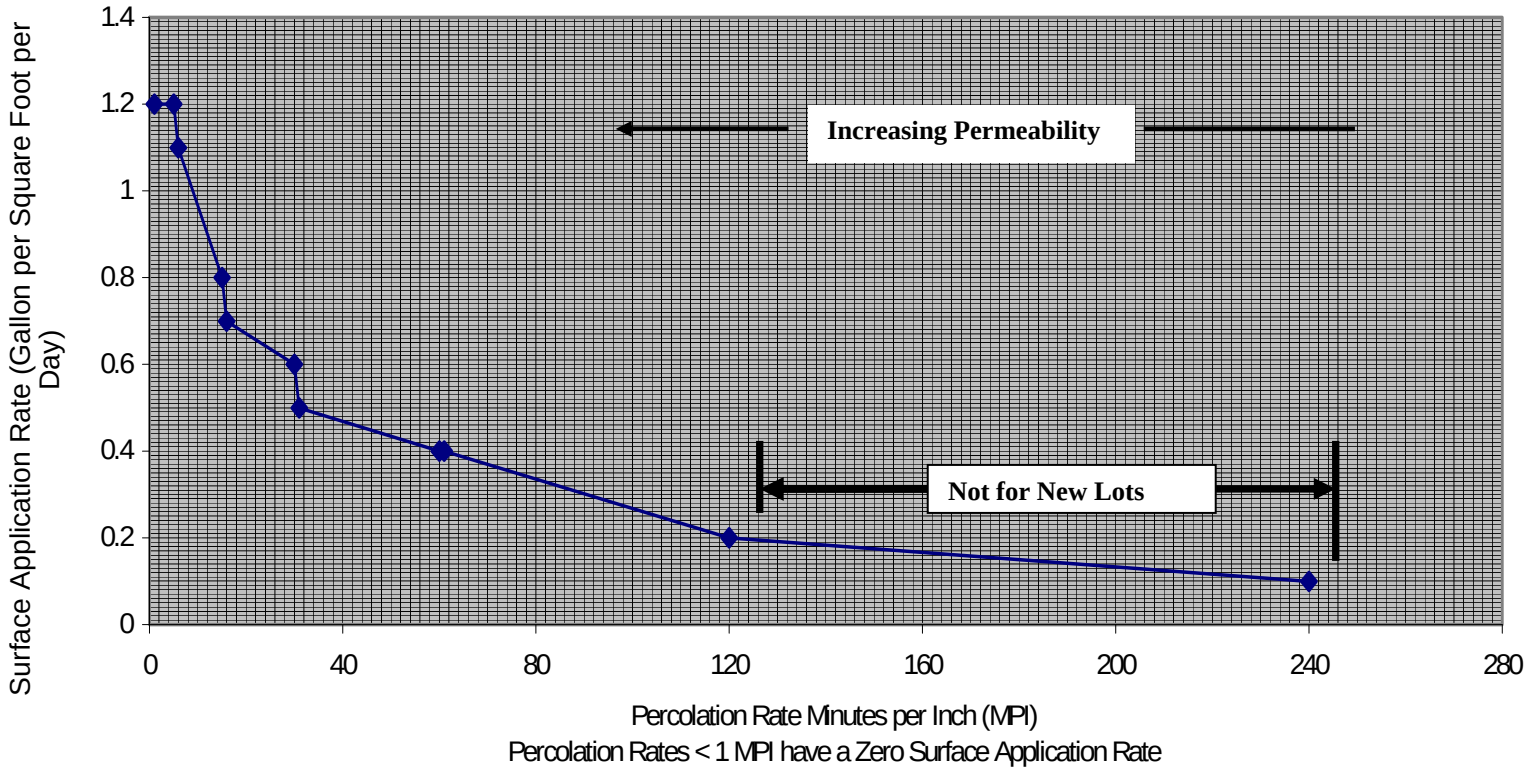
TABLE 2
DESIGN INFILTRATIVE SURFACE APPLICATION RATES

USDA Soil Texture Classification	Maximum Wastewater Application Rate (gallons per day per square foot)
Coarse Sand with percolation rate less than 1 MPI	Prohibited
Coarse sand, medium sand	1.2
Fine sand, loamy sand	1.1 to 0.8
Sandy loam, loam, sandy clay loam	0.7 to 0.6
Silt loam	0.5 to 0.4
clay loam, silty clay loam, sandy clay	0.3 to 0.2

TABLE 3
ENGINEERED FILL SPECIFICATIONS

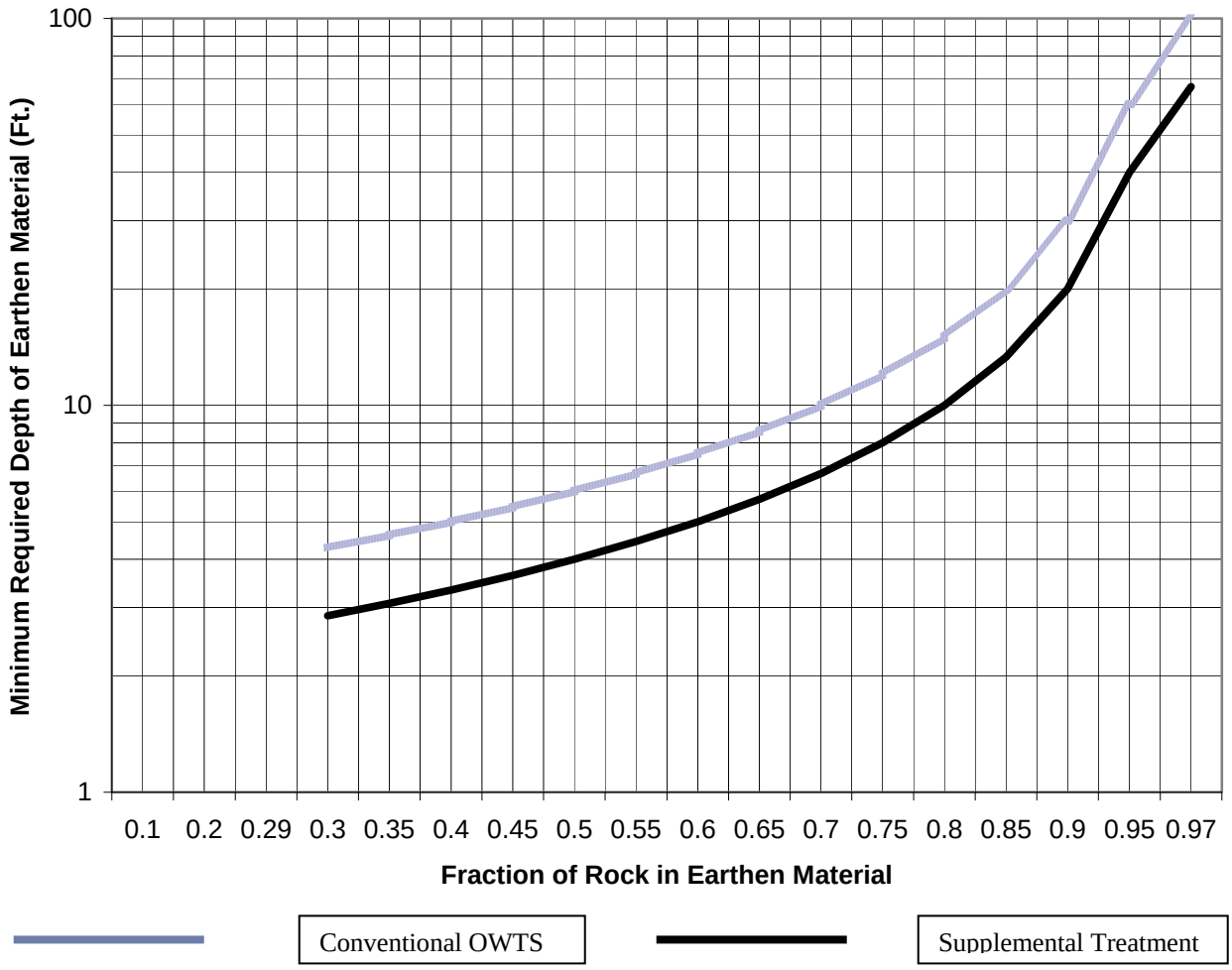
	Dry Weight % Passing
1. Maximum percentage of particles smaller than 0.053 mm in diameter (sieve #270).	5%
2. Maximum percentage of particles over 2.0 mm in diameter.	20%
3. Sieve Size	
3/8	100
4	95–100
10	75–100
16	50–85
30	25–60
50	10–30
100	2–16
200	0–3

Figure 1: Design Infiltrative Surface Application Rates



Note: Application rates with a percolation rates higher than 120 are restricted to existing parcels.

Figure 2: Minimum Depth of Earthen Material



(j) Dispersal systems using shallow pressurized drip or orifice dispersal shall meet the following requirements:

(1) the allowed application area shall not exceed four square feet per emitter/orifice. In no case may application areas overlap or comprise less than one square foot per lineal foot; and

(2) all systems shall be designed and maintained to reduce orifice clogging and root intrusion.

(k) Seepage Pits shall be designed on sidewall area as the infiltrative surface and are allowed where the following conditions apply:

(1) a qualified professional has determined that the site is unsuitable for other types of dispersal systems due to soil properties or amount of area available at the site;

(2) the bottom of the seepage pit is a minimum of ten feet above seasonal high groundwater level; and

(3) the site meets one of the conditions:

(A) A minimum of ten feet of unsaturated, undisturbed soil exists below the bottom of the seepage pit and above the seasonal high groundwater level, impervious layer, or bedrock. All strata to a depth of 10 feet below the pit bottom are free of groundwater in accordance with §30012; or

(B) a seepage pit may have less than 10 feet of unsaturated, undisturbed soil below the bottom of the seepage pit, but no less than two feet of unsaturated, undisturbed soil, when supplemental treatment components are used to meet the performance requirements specified in §30013(b), and §30013(c),

(C) a seepage pit may have less than two feet of unsaturated, undisturbed soil beneath the bottom of the seepage pit when supplemental treatment components are used to meet the performance requirements specified in §30013(b) and §30013(c)(1).

(1) Evapotranspiration and infiltration (ETI) systems shall be designed such that evapotranspiration and infiltration exceed the design waste flow combined with a 25-yr return rate precipitation event on an annual, monthly and seasonal basis. ETI systems shall be operated in a manner that prevents human exposure to wastewater. Measures shall be taken (e.g., fences, signs, etc.) to keep humans, animals and vehicles off the ETI bed.

Authority Cited: CA Water Code §1058, 13291

Reference: CA Water Code §13260, 13264, 13267, 13269, and 13291

ARTICLE 4: PROTECTING IMPAIRED WATER BODIES

§30040. SWRCB – Applicability and Requirements.

This section shall apply to any water body that has been designated as an impaired water body due to nitrogen or pathogens pursuant to Section 303(d) of the Clean Water Act, but only where a TMDL has been approved that includes a determination that OWTS contribute to the impairment of the water body.

(a) No new OWTS dispersal area shall be constructed or operated within 600 linear feet [in the horizontal (map) direction] of the edge of the river bank, lake or the mean high tide unless one of the following applies:

(1) where the waterbody is listed as an impaired water body due to nitrogen, OWTS meets the performance requirements for supplemental treatment contained in §30013(b) and §30013(d).

(2) where the water body is listed as an impaired water body due to pathogens, OWTS meets the performance requirements for supplemental treatment contained in §30013(b)(1) and §30013(c) or the dispersal field requirements contained in §30014(c).

(b) Unless modified or exempted pursuant to (c), (d), or (e), an owner of any existing OWTS dispersal area within 600 linear feet [in the horizontal (map) direction] of the edge of the river bank, lake or the mean high tide shall obtain a report of inspection by a qualified professional within one year of the effective date of these regulations or within one year after the effective date of a TMDL that includes a determination that OWTS contribute to impairment of the water body, whichever is later.

(1) The inspection shall include but not be limited to:

(A) a determination of whether the OWTS is discharging to the surface;

(B) a determination of whether the OWTS complies with the depth to seasonal high groundwater requirements of this Chapter;

(C) for a water body listed as an impaired water body for pathogens, a determination of whether Escherichia coli in the OWTS discharge is reaching groundwater; and

(D) for a water body listed as an impaired water body for nitrogen, a determination of whether nitrogen exceeding 10 mg/l is reaching groundwater;

(2) The OWTS owner shall submit the report of the inspection to the Regional Water Board within 30 calendar days of the completion of the inspection.

(3) Where a determination is made by a qualified professional that an OWTS discharge of Escherichia coli bacteria or nitrogen exceeding 10 mg/l is reaching groundwater, the owner of the OWTS shall have four years following the date of the determination to meet the applicable requirements of (a).

(4) In the absence of any determination required pursuant to (1)(B), (1)(C) or (1)(D), the OWTS will be deemed to contribute to the impairment of the water body, the owner shall have five years after the effective date of the applicable TMDL to meet the applicable requires of (a).

(c) Adoption or amendment of a TMDL may alter the 600-foot distance requirement or compliance dates in (a) and (b).

(d) This Section does not apply to impaired water bodies where, prior to the effective date of this Chapter, the Regional Water Board has adopted a TMDL requiring implementation of a wastewater management plan. The wastewater management plan must include methods to reduce the OWTS pollutant contribution to the impaired water body, a plan for water quality monitoring, and a program for the repair or replacement of existing OWTS. The wastewater management plan must be designed to result in either elimination of the impairment or the reduction of the contribution of OWTS to the impairment.

(e) The requirements contained in this Section shall not apply to OWTS owners who commit by way of a legally binding document to connect to a centralized wastewater collection and treatment system regulated through WDRs as specified within the following timeframes:

(1) The owner must sign the document within forty-eight months of the effective date of this Chapter or the effective date of a TMDL, whichever is later.

(2) The specified date for the connection to the centralized community wastewater collection and treatment system shall not extend beyond nine years following a Regional Water Board determination made pursuant to this Section.

§30040 to §30200 [Reserved for SWRCB]

Conditional Waiver

DRAFT

7STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER QUALITY

ORDER NO. DWQ – 200X – XXX

STATEWIDE WAIVER OF WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM ONSITE WASTEWATER TREATMENT SYSTEMS

The State Water Resources Control Board (State Water Board) finds that:

1. The State of California (State) has approximately 1.2 million onsite wastewater treatment systems (OWTS) that discharge waste from residential, commercial, and industrial facilities. Most OWTS are located in urban fringe and rural areas, although some are within urban areas.

2. Most OWTS consist of a septic tank and a subsurface dispersal field that receives effluent from the septic tank. The discharge to the area below the dispersal field contains contaminants including bacteria and viruses (pathogens), and dissolved organic and inorganic compounds, including nitrates and pharmaceuticals.

3. Pathogens can survive from 20 days to 100 days in unsaturated soil below an OWTS dispersal field. Once in groundwater, pathogens may travel several hundred feet before becoming inactive. Existing OWTS are not individually monitored to determine whether the discharge from such systems effectively and significantly reduce pathogens in the effluent prior to eventual discharge to groundwater.

4. Dissolved contaminants including inorganic compounds (chlorides, nitrates, etc.) and organic compounds (pesticides, pharmaceuticals, organic solvents, etc.) that are resistant to degradation and eventually may reach and adversely affect the beneficial use of groundwater.

5. Where OWTS are located above a groundwater table, discharge plumes containing dissolved contaminants from the OWTS may travel in groundwater for hundreds of feet. Such discharge plumes from OWTS, though somewhat diluted, may exceed drinking water standards for nitrates for hundreds of feet. The direction of groundwater flow is usually not known, may vary seasonally, and may be influenced by nearby groundwater pumping.

6. Where OWTS are located above fractured bedrock, discharges containing dissolved contaminants from OWTS can travel hundreds of feet as undiluted flow in rock fractures in a short time period. The direction of water flow in rock fractures is difficult, if not impossible, to determine.

7. Contaminants from OWTS in groundwater can discharge to surface water bodies, adversely affecting the beneficial uses of such water bodies.

8. Most local agencies require drinking water wells to be constructed a minimum of 100 feet from OWTS.

9. Within the State there are approximately 600,000 domestic drinking water wells on properties also using OWTS for waste disposal.

10. Most local agencies do not require sampling and analysis of water from domestic drinking water wells after a post-construction coliform screening of the wells. Domestic drinking water wells are not regulated by the State Department of Health Services.

11. The State Water Board has conducted sampling of domestic drinking water wells in a variety of hydrogeologic environments. Results have shown that water quality in domestic wells often may be degraded by surface contaminants.

12. Discharges from OWTS have degraded surface water and groundwater throughout the State. As a result, eight Regional Water Quality Control Boards (Regional Water Boards) have adopted OWTS discharge prohibitions in specific areas. Eight Regional Water Boards have identified OWTS discharges as contributing to the pollution of multiple Pacific coast beaches and eleven surface water bodies designated as impaired pursuant to Section 303(d) of the Federal Water Pollution Control Act and subsequent analysis through the process of investigating the sources of pollution in establishing total maximum daily loads of the pollutant of concern.

13. The California Water Code (CWC) section 13260(a)(1) requires that any person discharging waste, or proposing to discharge waste that could affect the quality of the waters of the State, other than a discharge into a community wastewater collection system, shall file a report of waste discharge (ROWD) with the appropriate Regional Water Board.

14. CWC Section 13263 requires that a Regional Water Board prescribe waste discharge requirements (WDRs) any existing discharge, or any material change in an existing discharge. The requirements must implement any relevant basin plan.

15. CWC section 13269 authorizes the State Water Board to waive the requirement that a discharger must submit an ROWD pursuant to section 13260. CWC section 13269 also authorizes the State Water Board to waive the requirement for issuance of WDRs for specific types of discharges where the State Water Board determines that such a waiver is consistent with any applicable basin plan and that the waiver is in the public interest.

16. Many local agencies, including most of the 58 counties within the State, have adopted standards or requirements for OWTS. All nine Regional Water Boards have adopted standards or requirements applicable to OWTS in their water quality control plans (basin plans). CWC §13291.7 allows local agencies and Regional Water Boards to adopt and retain standards for OWTS that are more protective of public health or the environment than State Water Board regulations or standards adopted for the permitting and operation of OWTS.

17. A notice was sent to all known interested parties and copies of the proposed Final PEIR were sent to all responsible agencies.

18. On XXX XX, 200X, in accordance with CEQA (PRC, Section 21000, et seq.), the State Water Board adopted a Mitigated Environmental Impact Report No. XXXXX for this Order.

19. The State Water Board has notified all known interested agencies and persons of its intent to adopt this Order for waiving the requirement for owners of OWTS to submit an ROWD and to apply for or obtain WDRs for OWTS discharges unless otherwise directed by a Regional Water Board. The

State Water Board has provided all known interested parties with an opportunity for a public hearing and an opportunity to submit comments.

20. The State Water Board, in a public meeting on XXXX XX, 200X, heard and considered all comments pertaining to this Order.

21. Amendments to this Order have been evaluated by the State Water Board in light of the Environmental Impact Report just certified and the substantial evidence before the Board, and the State Water Board finds such amendments to be consistent with the analysis contained therein. The State Water Board finds that there will be no additional potentially significant environmental impacts or substantial increase in the severity of previously-disclosed environmental impacts caused by the amendments to this Order.

On **Month Date, Year and at,** the State Water Board conducted a public meeting and adopted a Final Programmatic Environmental Impact Report (Final PEIR) for the discharge of OWTS to the environment. The Final PEIR conforms with the requirements contained in Public Resources Code Section 21000 et. Seq.

IT IS HEREBY ORDERED that:

1. Based upon the findings set forth in this Order and the administrative record for this matter, the State Water Board adopts this Order waiving the requirement for owners of OWTS to submit an ROWD and to apply for or obtain WDRs for OWTS discharges unless otherwise directed by a Regional Water Board. These requirements are waived only if owners of OWTS comply with the provisions contained in this Order.

2. The State Water Board certifies that the Final PEIR with proposed mitigation for OWTS discharges complies with the California Environmental Quality Act (CEQA) and the CWC for protection of the environment.

3. The State Water Board, based upon the testimony received at the aforementioned hearing, and information contained in the Final PEIR, finds that this Order with its attendant requirements for discharges from OWTS is in the public interest, provided that all dischargers seeking coverage under this waiver of ROWDs and WDRs:

    a. Comply with the conditions for waiver of WDRs as set forth in Sections I through IV, below; and

    b. Comply with all applicable State Water Board and Regional Water Boards plans and policies.

4. Any OWTS discharge not specifically described by the categories and conditions set forth in this Order is expressly prohibited unless authorized by WDRs, or made in compliance with prerequisites to discharge contained in CWC Section 13264(a).

5. This Order shall not create a vested right and all discharges shall be considered a privilege, as provided in CWC Section 13263(g).

6. Pursuant to CWC Section 13269, the waiver of WDRs for specific types of discharges provided for herein: (a) is conditional, (b) may be terminated at any time, (c) does not permit any illegal activity, (d) does not preclude the need for other permits that may be required by local governments, (e) and does not preclude the State Water Board or applicable Regional Water Boards from administering enforcement remedies, as authorized by provisions of the CWC.

7. This Order expires on [date five years hence] unless it is re-adopted on or before that date.

8. The State Water Board may review this Order at any time and may modify or terminate this Order in its entirety or for individual discharges, as appropriate.

GENERAL REQUIREMENTS

To qualify for coverage under this Order, the OWTS must meet all the criteria below:

1. the OWTS is placed or proposed for placement on a parcel that conforms with the local land use requirements adopted by the appropriate local agency;

2. the structure to be serviced by the OWTS complies with by the applicable local zoning codes, and other applicable land use regulations and policies.

I. Definitions

Except as otherwise indicated in this Order, definitions of terms used in this Order shall be those set forth in Division 7 (commencing with Section 13000) of the Water Code and Chapter 6.5 of Division 20 of the Health and Safety Code (commencing with Section 25100).

"**At-grade system**" means an OWTS dispersal system with a discharge point located at the preconstruction grade (ground surface elevation). The discharge from an at-grade system is always subsurface.

"**Basin plan**" means the same as "water quality control plan" as defined in Division 7 (commencing with Section 13000) of the Water Code. Basin plans are adopted by each Regional Water Board, approved by the SWRCB and the Office of Administrative Law, and identify surface water and groundwater bodies within each Region's boundaries and establish, for each, its respective beneficial uses and water quality objectives. Copies are available from the Regional Water Boards.

"**Bedrock**" means the rock, usually solid, that underlies soil or other unconsolidated, surficial material.

"**Certification**" means an expression of professional opinion in the form of a certificate, stamp, or signature that the OWTS, or its components, meets industry standards that are the subject of the certification, but does not constitute a warranty or guarantee, either express or implied. For proprietary supplemental treatment systems, certification is a statement that indicates the subject system has demonstrated performance through an independent, third-party evaluation of performance data as required in Category B of Section III, but does not constitute a warranty or guarantee, either express or implied.

"**Cesspool**" means an excavation in the ground receiving wastewater that is designed to retain the organic matter and solids, while allowing the liquids to seep into the soil. Cesspools differ from seepage pits because cesspool systems do not have septic tanks.

"**Clay**" means a soil particle; the term also refers to a type of soil texture. As a soil particle, clay consists of the individual rock or mineral fragments in soils having diameters <0.002 mm in diameter. As a soil texture, clay is the soil material that is comprised as 40 percent or more clay particles and not more than 45 percent sand particles and not more than 40 percent silt particles.

"**Community water supply**" means a public water system regulated by the California Department of Public Health or a local health department.

"**Conventional system**" means an OWTS consisting of a septic tank and a subsurface dispersal system septic tank effluent. A gravity subsurface dispersal system may be a leachfield or seepage pit. A conventional system may include septic tank effluent pumping where the dispersal area is located at a higher elevation than the associated septic tank or to accomplish uniform distribution. Properly sited, designed, installed, and operated conventional systems are capable of nearly complete removal of suspended solids, biodegradable organic compounds, and fecal coliform bacteria. However, other pollutants may not be removed to acceptable levels. Conventional systems can be expected to remove no more than 10 to 40% of the total nitrogen compounds (TN) in domestic wastewater after final soil treatment.

"**Dispersal system**" means a leachfield, seepage pit, mound, at-grade, subsurface drip field, evapotranspiration and infiltration bed, or other type of system for final wastewater treatment and subsurface discharge.

"**Domestic wastewater**" means the type of wastewater normally discharged from, or similar to, that discharged from plumbing fixtures, appliances, and other household devices including, but not limited to toilets, bathtubs, showers, laundry facilities, dishwashing facilities, and garbage disposals. Domestic wastewater does not include wastewater from industrial processes, water softener systems, other than inputs considered *de minimis* (less than 5 percent).wastewater.

"**Domestic well**" means a groundwater well that provides water for human consumption and is not regulated by the California Department of Public Health.

"**Dosing tank**" means a watertight receptacle located between an OWTS treatment unit (i.e., septic tank or supplemental treatment unit) and a dispersal area equipped with an automatic siphon device or pump designed to discharge wastewater intermittently in the distribution lines in amounts proportioned to the capacity of such lines and to provide adequate rest periods between such discharges.

"**Earthen material**" means a substance composed of the earth's crust (i.e., soil and rock).

"**EDF**" see electronic deliverable format.

"**Effluent**" means the wastewater discharged from an OWTS treatment component or any portion thereof.

"**Electronic deliverable format**" or "**EDF**" means the data standard adopted by the SWRCB for submittal of groundwater quality monitoring data to the SWRCB's internet-accessible database system.

"**Engineered Fill**" means soil that meets the criteria in Table 3 in Section III of this Order.

"**Escherichia coli**" means a group of bacteria used as an indicator of fecal contamination.

"**ETI**" see "evapotranspiration and infiltration bed"

"**Evapotranspiration and infiltration (ETI) bed**" means a subsurface dispersal bed in which soil capillarity and root uptake help to disperse the effluent from a septic tank or supplemental treatment system through surface evaporation, soil absorption, and plant transpiration.

"**Existing OWTS**" means an OWTS that was either permitted by the applicable local authority or legally installed before the effective date of this Order.

"**Fines**" are soil particles with a diameter less than 0.05 millimeters. Fines consist of silt or clay sized particles.

"**Gravel-less chamber**" system means a buried structure used to create an aggregate-free absorption area for infiltration and treatment of wastewater.

"**Grease interceptor**" means a passive interceptor that has a rate of flow exceeding 50 gallons-per-minute and that is located outside a building. Grease interceptors are used for separating and collecting grease from wastewater.

"**Groundwater**" means water below the land surface that is at or above atmospheric pressure.

"**High-strength waste**" means wastewater having a 30-day average concentration of biochemical oxygen demand (BOD) greater than 250 mg/L or total suspended solids (TSS) greater than 150 mg/L after the septic tank or other OWTS treatment component and before the dispersal system.

"**Impaired Water Bodies**" means those surface water bodies or segments thereof that are identified on a list approved first by the SWRCB and then approved by US EPA pursuant to Section 303(d) of the federal Clean Water Act.

"**Major repair**" means any repair required for an OWTS due to surfacing wastewater effluent.

"**Memorandum of understanding**" (MOU) means a formal agreement between the Regional Water Board and a local agency. The agreement authorizes the local agency to administer the OWTS discharge program in lieu of direct State regulation of discharges from OWTS.

"**Mottling**" means a soil condition that results from oxidizing or reducing minerals due to soil moisture changes from saturated to unsaturated over time. Mottling is characterized by spots or blotches of different colors or shades of color (grays and reds) interspersed within the dominant color as described by the United States Department of Agriculture soil classification system. This soil condition can be indicative of historic seasonal high groundwater level but the lack of this condition may not demonstrate the absence of groundwater.

"**MOU**" see "Memorandum of understanding."

"**Mound system**" means an aboveground dispersal system (covered sand bed with effluent leachfield elevated above original ground surface inside) used to enhance soil treatment, dispersal, and absorption of effluent discharged from an OWTS treatment unit such as a septic tank. Mound systems have a subsurface discharge.

"**NELAP Accredited**" means an accreditation for laboratories issued by a state government program in which that laboratory resides or through the National Environmental Laboratory Accreditation Program.

"**New lot**" means a lot established after the effective date of this Order.

"**New OWTS**" means an OWTS permitted after the effective date of this Order.

"**Onsite wastewater treatment system(s)**" (**OWTS**) has the same meaning as found in §13290 of the California Water Code. The short form of the term may be singular or plural.

"**Percolation test**" means a method of testing the water absorption of the soil. The test is conducted with clean water and test results are used to establish the dispersal system design.

"**Performance requirements**" means the maximum allowable concentrations of BOD, TSS, total nitrogen (TN), and total coliform resulting from the active treatment of domestic wastewater from an OWTS.

"**Permit**" means a document that allows the installation and use of an OWTS. The term refers to any one of the following:

1. A conditional waiver of waste discharge requirements issued by the SWRCB or a the Regional Water Board;

2. Waste discharge requirements issued by a Regional Water Board or the SWRCB; or;

3. A document, so named, issued by a local agency that is operating under an MOU or other agreement with a regional water board or SWRCB pursuant to these regulations.

"**Person**" means any individual, firm, association, organization, partnership, business trust, corporation, company, State agency or department, or unit of local government who is, or that is, subject to these regulations.

"**Pollutant**" means any substance that alters water quality of the waters of the State to a degree that is may potentially affect the beneficial uses of water, as listed in a basin plan.

"**Pressure distribution**" means a type of dispersal system employing a pump or automatic siphon and distribution piping with small diameter perforations (1/4 of an inch of less) or drip emitters to introduce effluent into the soil with uniform distribution.

"**Qualified professional**" means an individual licensed or certified by a State of California agency to design and construct OWTS, including an individual who possesses a registered environmental

health specialist certificate or is currently licensed as a professional engineer or professional geologist.

"**Record Plan**" means the document prepared by either a qualified professional or person authorized to install in ¶(i) of Section II. Record plans detail the "as-built" installation of the OWTS, including but not limited to final placement of an OWTS its components, sizes and the specifications of components.

"**Replaced OWTS**" means an OWTS that has its treatment capacity expanded, or its dispersal system replaced, after the effective date of this Order. "**Rock**" means any naturally formed aggregate of one or more minerals (e.g., granite, shale, marble); or a body of undifferentiated mineral matter (e.g. obsidian), or of solid organic matter (e.g., coal) that is greater than 0.08 inches (2mm) in size.

"**Sand**" means a soil particle; this term also refers to a type of soil texture. As a soil particle, sand consists of the individual rock or mineral particles in soils having diameters ranging from 0.05 to 2.0 millimeters in diameter. As a soil texture, sand is soil that is comprised of 85 percent or more sand particles, with the percentage of silt plus 1.5 times the percentage of clay particles comprising less than 15 percent.

"**Seepage pit**" means a drilled or dug excavation, three to six feet in diameter, either lined or gravel filled, that receives the effluent discharge from a septic tank or other OWTS treatment unit for dispersal.

"**Septic tank**" means a watertight, covered receptacle designed for primary treatment of wastewater and constructed to:

1. Receive wastewater discharged from a building;
2. Separate settleable and floating solids from the liquid;
3. Digest organic matter by anaerobic bacterial action;
4. Store digested solids; and
5. Clarify wastewater for further treatment with final subsurface discharge.

"**Septic tank effluent**" means wastewater discharged from a septic tank.

"**Service provider**" means a person capable of operating, monitoring, and maintaining an OWTS consistent with the requirements and responsibilities in ¶l of Section II; ¶g and/or ¶h, Category B, and/or ¶f, Category C of Section III; and the O&M manual; or capable of inspecting a septic tank in accordance with ¶w, Section II of this Chapter.

"**Shallow dispersal system**" means a dispersal system designed to apply wastewater at the upper layer of the soil column using pressure distribution.

"**Silt**" means a soil particle; this term also refers to a type of soil texture. As a soil particle, silt consists of the individual rock or mineral particles in soils having diameters ranging from between 0.05 and 0.002 mm in diameter. As a soil texture, silt is soil that is comprised as approximately 80 percent or more sand particles and not more than 12 percent clay particles.

"**Site**" means the location of the OWTS and, where applicable, a reserve dispersal area capable of disposing of 100 percent of the design flow from all sources the OWTS is intended to serve.

"**Site Evaluation**" means an assessment of the characteristics of the site sufficient to determine its suitability for an OWTS to meet the requirements of this Order.

"**Soil**" means the naturally occurring body of porous mineral and organic materials on the land surface, which is composed of unconsolidated materials, including sand-sized, silt-sized, and clay-sized particles mixed with varying amounts of larger fragments and organic material. The various combinations of particles differentiate specific soil textures identified in the soil textural triangle developed by the United States Department of Agriculture (USDA) as found in Soil Survey Staff, USDA; **Soil Survey Manual, Handbook 18,** U.S. Government Printing Office, Washington, DC, 1993, p. 138. For the purposes of this Order, soil shall contain earthen material of particles smaller than 0.08 inches (2 mm) in size.

"**Soil permeability**" means a measure of the ability of a soil to transmit liquids.

"**Soil texture**" means the soil class that describes the relative amount of sand, silt, and clay and combinations thereof as defined by the classes of the soil textural triangle developed by the USDA (referenced above).

"**Supplemental treatment**" means any OWTS or component of an OWTS, except a septic tank or dosing tank that performs additional wastewater treatment so that the effluent meets the performance requirements in Section III of this Order prior to discharge of effluent into the dispersal field.

"**Telemetric**" means the ability to automatically measure and transmit OWTS data by wire, radio, or other means.

"**TMDL**" is the acronym for "total maximum daily load." Section 303(d)(1) of the Clean Water Act requires each State to establish a TMDL for each impaired water body to address the pollutant(s) causing the impairment. In California, TMDLs are usually adopted as Basin Plan amendments.

"**Total coliform**" means a group of bacteria consisting of several *genera* belonging to the family *Enterobacteriaceae,* which includes Escherichia coli.

"**Waste discharge requirement**" of "WDR" means an operation and discharge permit issued for the discharge of waste pursuant to Section 13260 of the California Water Code.

II. General Conditions

(a) New OWTS and replaced OWTS shall be operated to accept and treat flows of domestic wastewater, excluding any material not generally associated with household activities (including, but not limited to, toilet flushing, food preparation, laundry, household cleaning including drain cleaning, and personal hygiene). Additionally, OWTS may be designed and operated to accept other wastewater from facilities that:

(1) exclude hazardous waste, as defined in Section 66260 of Title 22 of the California Code of Regulations;

(2) reduce high strength wastewater to below a 30-day average concentration of 250 mg/L BOD and 150 mg/L TSS in the septic tank effluent and/or prior to discharge to the dispersal system; or

(3) use waste segregation practices and systems to reduce pollutant concentrations entering the OWTS to domestic wastewater levels.

(b) New OWTS and replaced OWTS shall be designed to disperse effluent to subsurface soils in a manner that maximizes unsaturated zone treatment and aerobic decomposition of soluble and particulate organic compounds and other pollutants in the effluent.

(c) New OWTS shall be designed, operated and maintained in accordance with the requirements in this Order.

(d) The design of all new and replaced OWTS shall be based on the expected influent wastewater quality, the quantity and characteristics of the site, and the required level of treatment for protection of water quality and public health.

(e) A qualified professional shall perform all necessary soil and site evaluations for all new OWTS and for existing OWTS where the treatment or dispersal system will be replaced or expanded.

(f) A qualified professional shall design all new OWTS and existing OWTS where the treatment or dispersal system will be replaced or expanded. A qualified professional employed by a local agency while acting in that capacity can review, design, and approve a design for a proposed conventional OWTS.

(g) A Licensed General Engineering Contractor (Class A), General Building Contractor (Class B), Sanitation System Contractor (Specialty Class C-42), or Plumbing Contractor (Specialty Class C-36) shall install all new OWTS and replaced OWTS in accordance with California Business and Professions Code Section 7056, 7057, and 7058 and Article 3, Division 8, Title 16 of the California Code of Regulations. A property owner may install his/her own OWTS if the as-built diagram and the installation are inspected and approved by the Regional Water Board or authorized local agency at a time when the OWTS is in an open condition (not covered by soil and exposed for inspection).

(h) Materials in concentrations that are deleterious and inhibiting to OWTS operations shall not be discharged to an OWTS. Deleterious and inhibiting materials include the following:

(1) any biocide, or

(2) all products and matters defined in Chapter 41, Division 4.5, Title 22 in the California Code of Regulations.

(i) The owner of any site on which a new OWTS or replaced OWTS is located shall have an operation and maintenance (O&M) manual prepared by a qualified professional. O&M manuals shall include, at a minimum:

(1) the name, address, telephone number, business and professional license number of the OWTS designer;

(2) the name, address, telephone number, business and professional license number, where applicable, of the OWTS installer;

(3) the name, address, and telephone number of the service provider that maintains any supplemental treatment system;

(4) instructions for proper operation and maintenance and a protocol for assessing of performance of the OWTS;

(5) the Record Plan with a certification that the dispersal system meets all applicable requirements contained in subsection (a), Category C of Section III of this Order;

(6) the design flow and performance requirements for the OWTS;

(7) a list of types of substances that could impair performance if discharged to the OWTS, including those applicable to ¶h;

(8) a list of types of substances that could cause a condition of pollution or nuisance if discharged to the OWTS, including but not limited to pharmaceutical drugs and water softener regeneration brines; and

(9) a copy of the SWRCB or Regional Water Board waiver or waste discharge requirements applicable to the system.

(j) Each owner of a new OWTS with supplemental treatment components or existing OWTS with supplemental treatment components (see Category B of Section III) shall maintain, in addition to the O&M manual and record plan, a contract with a service provider to ensure that the OWTS is operated, maintained, and monitored as designed.

(k) The owner shall retain a Record Plan and an O&M manual for any new or replaced OWTS upon completion of an OWTS installation. Upon the sale of the site, it is the obligation of the owner of the site to provide the buyer, through escrow or otherwise, with a complete copy of the O&M manual and record plan for the OWTS at the site.

(l) The owner shall retain all inspection records pertaining to their OWTS for a minimum of five years.

(m) Cesspools shall not be used for new or replaced OWTS.

(n) All new septic tanks, replaced septic tanks, and new or replaced grease interceptor tanks shall comply with the standards contained in Sections K5(b), K5(c), K5(d), K5(e), K5(k), K5(m)(1), and K5(m)(3)(ii) of Appendix K, of Part 5, Title 24 in the 2007 California Code of Regulations.

(o) All new septic tanks shall meet the following requirements:

1. Access openings shall have watertight risers and shall be set within 6 inches of finished grade; and

2. Access openings shall be secured to prevent unauthorized access.

(p) The installation of prefabricated septic tanks shall be limited to those approved by the International Association of Plumbing and Mechanical Officials (IAPMO) and their installation shall be installed according to the manufacturer's instructions. If IAPMO certified tanks are not available locally, other prefabricated tanks may be allowed only if they comply with ¶q below;

(q) New non- prefabricated tanks or prefabricated tanks not certified by IAPMO shall be installed only after the design is stamped and certified by a California registered civil engineer as meeting the industry standards necessary to comply with these requirements;

(r) New and replaced OWTS septic tanks shall be designed to prevent solids in excess of three-sixteenths (3/16) of an inch in diameter from passing to the dispersal system. Septic tanks that use a National Sanitation Foundation/American National Standard Institute (NSF/ANSI) Standard 46 certified septic tank filter at the final point of effluent discharge from the OWTS and prior to the dispersal system shall be deemed in compliance with this requirement. All documentation received as a result maintenance on effluent filters shall be retained for five years.

(s) OWTS owners with an onsite domestic well on their property must monitor groundwater by sampling and analyzing water from:

(1) a monitoring well designed to measure the effect of the OWTS discharge, located down-gradient and within 100 feet of the OWTS dispersal system. For existing OWTS with domestic wells, sampling shall take place within 5 years of the effective date of this Order and no less than every fifth year thereafter. For new OWTS with domestic wells, sampling shall take place within 30 days following the installation of the new OWTS and every fifth year thereafter. For both new and existing OWTS, samples shall not be taken earlier than six months prior to the end of every five year sampling period.; or

(2) an existing onsite domestic well on the property. For existing OWTS with domestic wells, sampling shall take place within 5 years of the effective data of this Order and no less than once every fifth year thereafter. For new OWTS with a domestic well, sampling shall be conducted within 30 days following the installation of a new OWTS and no less than once every fifth year thereafter. For both new and existing OWTS, samples shall not be taken earlier than six months prior to the end of every five year sampling period.

Groundwater analyses shall be conducted in accordance with ¶(t). Existing OWTS installations shall be exempt from this requirement if the facility that the OWTS serves is provided water from a community water supply system.

(t) The owner or owner's authorized representative shall collect groundwater samples collected pursuant to ¶(s) and shall have them analyzed by a laboratory certified by the Department of Health Services. The laboratory shall be capable of producing laboratory results in EDF format. The groundwater samples shall be analyzed for the following: calcium (Ca), magnesium (Mg), sodium (Na), potassium (K), iron (Fe), manganese (Mn), zinc (Zn), sulfate (SO_4), chloride (Cl), nitrate

(NO_3), nitrite (NO_2), fluoride (F), TDS, hardness (as $CaCO_3$), total alkalinity (as $CaCO_3$),carbonate (CO_3), bicarbonate (HCO_3), MBAS (methylene blue active substances), pH and total coliform. If a sample tests positive for total coliforms, the sample shall be analyzed for Escherichia coli bacteria. The name of the site owner, the site address and the laboratory results shall be transmitted to the SWRCB in EDF format. The names and addresses of owners of tested domestic wells shall not be released.

(u) Any person owning a septic tank shall obtain a report from a service provider a minimum of once every five years. The inspection report shall verify that the level of settleable solids and/or floatable solids do not impair the performance of the septic tank. It is recommended that septic tanks be pumped if the sum of the scum depth and sludge depth exceeds 25% of the septic tank depth as measured from the water line to the bottom of the tank.

(v) The SWRCB recommends that the regenerating saline backwash from water softeners not be discharged either to the OWTS or to the ground in any manner.

(W)Surfacing effluent is prohibited. In cases of violation of this prohibition, a major repair shall be conducted by a service provider or qualified professional. Such corrective action shall be commenced within 30 days of reported violation, and must be completed within 90 days. The Regional Board may exempt a property from the 90-day requirement and extend the time frame, but such exemptions shall not extend beyond 180 days.

III Category-Specific Conditions for New OWTS

All new OWTS shall comply with Category A, Section III requirements and each specific requirement within the subsequent categories where the OWTS contains the component that is addressed in that subsection:

Category A: Depth to Groundwater Determination Requirements for New OWTS

(a) A site evaluation shall be conducted by a qualified professional to determine the depth to the seasonal high groundwater unless the seasonal high groundwater level at the site has previously been determined to be greater than 10 feet below the ground surface. Such a finding may be based upon the following sources: previous evaluations or studies, or well driller information.

(b) Soil mottling observed during the site evaluation by a qualified professional may be used to determine the seasonal high groundwater level. Where soil redoximorphic observations cannot be made or lead to unreliable conclusions, a qualified professional shall use the following protocols to determine seasonal high groundwater prior to design and installation of an OWTS:

(1) To measure depth to seasonal high groundwater, a groundwater level monitoring well shall be installed to a minimum depth of ten feet in the vicinity of a proposed wastewater dispersal system. If an impermeable layer is present at a depth of less than ten feet below the ground surface, the depth of the groundwater level monitoring well shall be decreased to the depth of the impermeable layer.

(2) For OWTS serving facilities other than single family homes, the SWRCB or Regional Water Board shall determine the number and depth of groundwater level monitoring wells. Such determinations by the regional board shall supercede the depth requirements in ¶b(1) of this Order.

(3) Measurements of depth to seasonal high groundwater shall be conducted between November 1 and April 1 unless otherwise specified by a Regional Water Board. Groundwater levels shall be measured continuously using a piezometer to record the seasonal high groundwater level. The piezometer may be a float device that mechanically or electronically records the highest water level.

(4) For areas that are subject to special circumstances such as seasonal high groundwater caused by snowmelt or irrigation, measurements to determine the annual high groundwater level shall be measured in the same manner as specified in ¶b(3) above.

(5) The Regional Water Board may exempt sites or areas from this Section where an alternative protocol for determining seasonal high ground water is established in the basin plan.

Category B: New OWTS with Supplemental Treatment Components

(a) Local agencies or the Regional Water Board may require supplemental treatment systems for any existing or new OWTS where treatment is needed to mitigate for insufficient soil depths or to provide for protection of the water quality and public health, as deemed necessary. Required soil depths are set forth in §24914(c) for a conventional system or §24914(d) for a dispersal system with supplemental treatment components.

(b) Supplemental treatment components, other than for disinfection or nitrogen reduction, shall be designed to reduce biochemical oxygen demand (BOD) and total suspended solids (TSS) concentrations. Supplemental treatment components, other than for disinfection or nitrogen reduction, shall produce an effluent that meets all of the following requirements:

(1) The 30-day average carbonaceous BOD (CBOD) concentration shall not exceed 25 milligrams per liter (mg/L), or alternately, a 30-day BOD in excess of 30 mg/L; and

(2) The 30-day average TSS concentration shall not exceed 30 mg/L.

(c) Supplemental treatment components designed to perform disinfection shall provide sufficient pretreatment of the wastewater so that effluent does not exceed a 30-day average TSS of 10 mg/L and shall further achieve an effluent total coliform bacteria concentration, at the 95 percentile, no greater-than either of the following:

(1) 10 Most Probable Number per 100 milliliters prior to discharge into a dispersal field where the soils exhibit percolation rates between 1 and 10 minutes per inch (MPI) or where the soil texture is sand; or

(2) 1000 MPN per 100 milliliters prior to discharge into a dispersal field where the soils exhibit percolation rates greater than 10 MPI or consist of a soil texture other than sand.

(d) Effluent from supplemental treatment components designed to reduce nitrogen shall not exceed a 30-day average TN concentration of 10 mg/L as nitrogen.

(e) Before the installation of any proprietary supplemental treatment OWTS, all such treatment components shall be tested by an independent third party testing laboratory. The independent third party laboratory shall certify that the type of system being installed and its components are capable of reliably meeting applicable performance requirements when installed according to design and manufacturer specifications, based upon the results from the testing protocol. The testing protocol shall include but is not limited to ¶1 thru ¶5 below:

(1) A testing duration of not less than six continuous months;

(2) the minimum number of sample days shall not be less than 96 days;

(3) All samples shall be analyzed by a NELAP accredited laboratory.

(4) The wastewater used for testing shall consist primarily of municipal or domestic wastewater and shall have concentrations in the following ranges:

(A) BOD: 125 milligrams per liter or greater;

(B) TSS: 125 milligrams per liter or greater;

(C) TN (as N): 50 milligrams per liter or greater;

(D) total coliform bacteria: $1X10^6$ MPN/100 ml or greater; and

(E) alkalinity (as $CaCO_3$): 50 mg/L or greater;

(5) Hydraulic and organic design loading shall be varied during the test to simulate OWTS operational stress at different levels of use, including all of the following:

(A) regular daily use, where the following daily wastewater flow regime entering the supplemental treatment system is as follows:

i) approximately 35% of the daily wastewater design flow enters the OWTS from 6:00 a.m. to 9:00 a.m.

ii) approximately 25% of the daily wastewater design flow enters the OWTS from 11:00 a.m. to 2:00 p.m.

iii) approximately 40% of the daily wastewater design flow enters the OWTS from 5:00 p.m. to 8:00 p.m.;

(B) vacation (e.g., one week rest)) no sooner that two weeks after testing commencement and no later that two weeks before test termination.

(6) Testing of supplemental treatment components to comply with the performance requirements of b, (c), and (d) shall be conducted with the following minimum detection limits listed in Table 1:

TABLE 1
DETECTION LIMITS FOR WASTEWATER CONSTITUENTS

Parameter	Detection Limit
BOD	2 mg/L
TSS	5 mg/L
Total Coliform	2.2 MPN
Total Nitrogen	1 mg/L

(f) The ongoing monitoring of supplemental treatment components designed to meet the performance requirements of (b), (c) or (d) shall be monitored in accordance with the operation and maintenance manual for the OWTS or more frequently as required by the Regional Water Board.

(g) OWTS with supplemental treatment components shall be equipped with a visual or audible alarm as well as a telemetric alarm that notifies the owner and service provider in the event of system malfunction. OWTS using supplemental treatment shall, at a minimum, provide for 24-hour wastewater storage as a means to minimize pollution from overflow discharge due to system malfunction or power outage.

(h) OWTS designed to meet the disinfection performance requirements outlined in (c) shall be inspected for proper operation weekly by a service provider unless a telemetric monitoring system is capable of continuously assessing the operation of the disinfection system. Testing of effluent from supplemental treatment components that perform disinfection shall be conducted quarterly based on analysis of total coliform with a minimum detection limit of 2.2 MPN. Effluent samples shall be taken by service provider under contract and analyzed by a California Department of Health Services certified laboratory.

Category C: Dispersal Systems for New OWTS

Any dispersal system that is part of a new OWTS shall meet the following requirements:

(a) Dispersal systems shall be designed and installed at the shallowest practicable depth to maximize elements critical to effective treatment of effluent in the soil. Elements critical to effective treatment include oxygen transfer, biological treatment, evapotranspiration and vegetative uptake of nutrients.

(b) Dispersal systems, except for those addressed under seepage pits (k) and gravel-less chambers (i), shall be designed using only the bottom area of the dispersal system as the infiltrative surface. The

infiltrative surface shall be sized using the design application rates contained in either Table 2 or Figure 1.

(c) Dispersal systems of all conventional OWTS shall have at least three feet of continuous unsaturated, undisturbed, earthen material with less than 30 percent of that material by weight containing mineral particles in excess of 0.08 inches (2 mm) in size (i.e. rock) between the bottom of the dispersal system and the top of seasonal high groundwater level, impermeable strata, or bedrock, whichever of these three, if present, has the highest elevation. Where greater than 30 percent of the undisturbed earthen material exceeds 0.08 inches (2 mm) in size by weight, pressure distribution shall be used to disperse the OWTS effluent and either of the following shall apply:

(1) the minimum depth of undisturbed earthen material required shall be determined using Figure 2; or

(2) the application rate as shown in Table 2 or Figure 1 shall be reduced by the same percentage as that of the earthen materials in excess of 0.08 inches (2 mm) at the dispersal area.

(d) Dispersal systems of all OWTS with supplemental treatment components shall have at all times during operation at least two feet of continuous unsaturated, undisturbed, earthen material with less than 30 percent of that material consisting of mineral particles in excess of 0.08 inches (2 mm) in size (i.e. rock) between the bottom of the dispersal system and the top of seasonal high groundwater level, impermeable strata, or bedrock, whichever of these three, if present, has the highest elevation. Where greater than 30 percent of the undisturbed earthen material exceeds 0.08 inches (2 mm) in size, pressure distribution shall be used to disperse the OWTS effluent and either of the following shall apply:

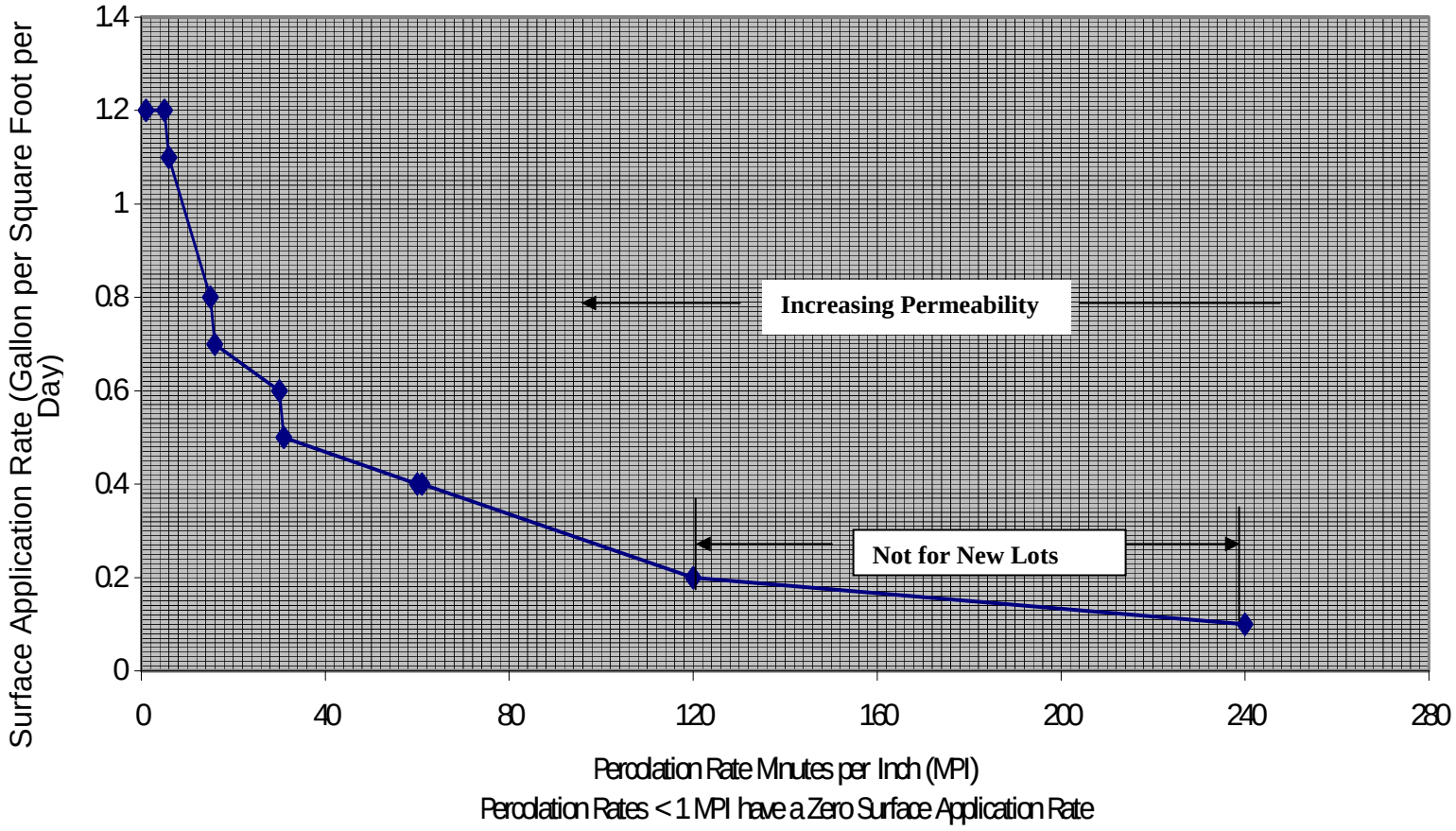
(1) the minimum depth of undisturbed earthen material required shall be determined using Figure 2; or

(2) the application rate as shown in Table 2 or Figure 1 shall be reduced by the same percentage (by weight) as that of the earthen materials in excess of 0.08 inches (2 mm) at the dispersal area.

(e) Where undisturbed earthen material has insufficient depth to satisfy the minimum depth requirements in (c) or (d), engineered fill as defined herein may be added to existing site soils so that the site exceeds those specified soil depth requirements. Engineered fill (i.e., sand or crushed glass) shall meet the specifications contained in Table 3. Engineered fill shall compensate for the lack of in-place earthen material at a 1.5 to 1 basis so that a one foot deficiency in the soil column depth would require one and one half of a feet of engineered fill material. A pressure distribution system is required where engineered fill is used to comply with the minimum earthen material depth requirements. In no case shall engineered fill comprise more than one foot of the minimum native soil depth requirements in (c) or (d).

(f) Conventional OWTS dispersal systems in which pumps are used to move effluent from the septic tank to the dispersal system shall be equipped with one of the following: a visual, audible, or a telemetric alarm that alerts the owner or service provider in the event of pump failure. All pump systems shall, at a minimum, provide for storage in the pump chamber during a 24-hour power outage or pump failure and shall not allow an emergency overflow discharge.

Figure 1: Design Infiltrative Surface Application Rates



Note: Application rates with a percolation rates higher than 120 are restricted to existing parcels.

Figure 2: Minimum Depth of Earthen Material

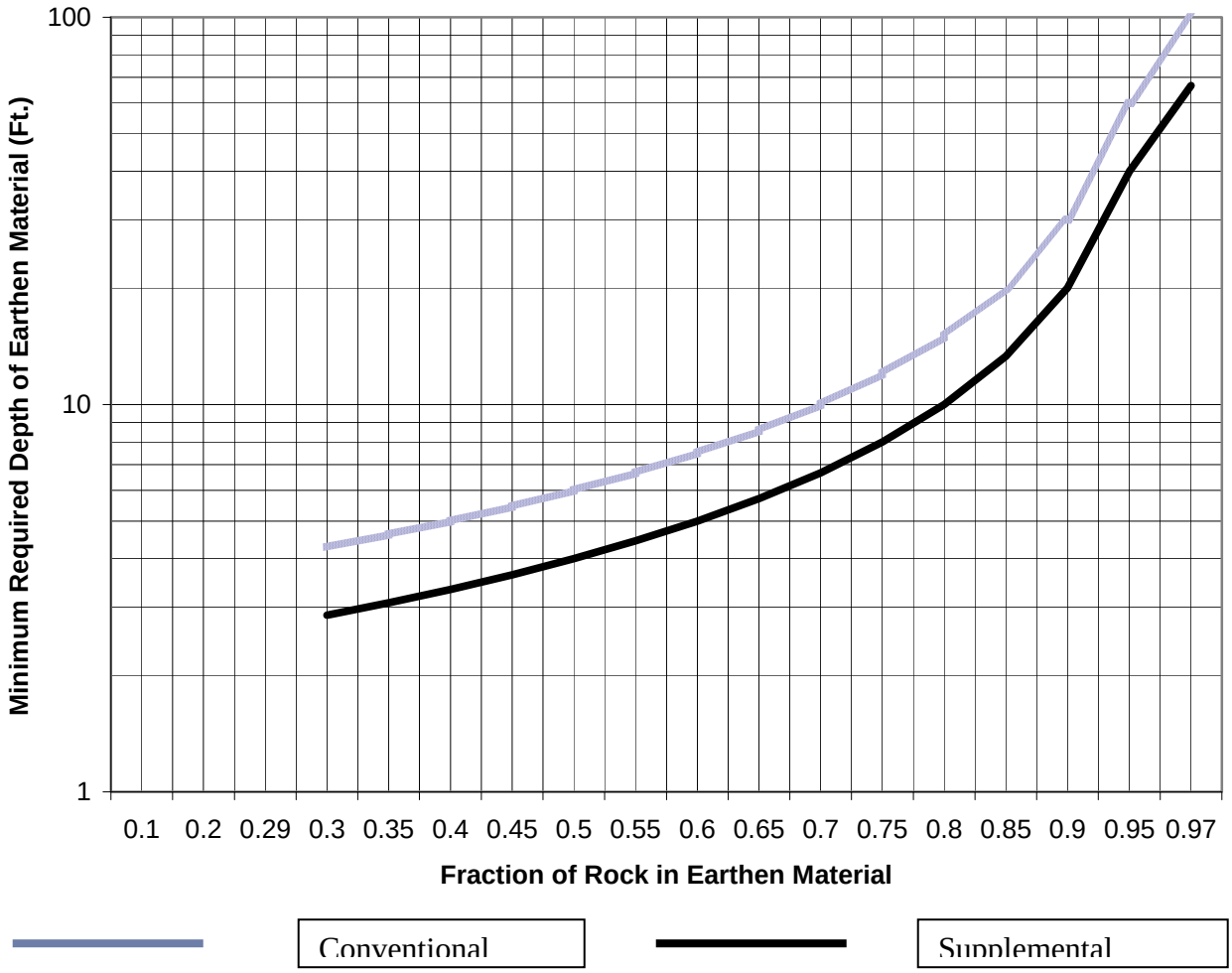


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TABLE 2 DESIGN INFILTRATIVE SURFACE APPLICATION RATES	
USDA Soil Texture Classification	**Maximum Wastewater Application Rate (gallons per day per square foot)**
Coarse Sand with percolation rate less than 1 MPI	Prohibited
Coarse sand, medium sand	1.2
Fine sand, loamy sand	1.1 to 0.8
Sandy loam, loam, sandy clay loam	0.7 to 0.6
Silt loam	0.5 to 0.4
clay loam, silty clay loam, sandy clay	0.3 to 0.2

TABLE 3 ENGINEERED FILL SPECIFICATIONS	
1. Maximum Percent particles smaller than 0.053 mm in diameter (sieve #270).	5%
2. Maximum Percent particles over 2.0 mm. In diameter.	20%
3. Sieve Size	Dry Weight % Passing
3/8	100
4	95–100
10	75–100
16	50–85
30	25–60
50	10–30
100	2–16
200	0–3

(g) All dispersal systems shall have at least six (6) inches of soil cover.

(h) In no case shall a vehicle drive or be placed over the dispersal system.

(i) Gravel-less chambers shall meet the requirement for conventional dispersal systems contained in (c) and (d). The infiltrative surface shall be sized using the area beneath the open portion of the chamber (not including area beneath the base of support or outside the chamber) and using the design application rates contained in either Table 2 or Figure 1. The design infiltrative surface area of such a system may be reduced to no less than seventy percent (70%) of the area required for a conventional dispersal system.

(j) Dispersal systems using shallow pressurized drip or orifice dispersal shall meet the following requirements:

(1) The allowed application area shall not exceed four square foot per emitter/orifice. In no case may application areas overlap or comprise less than one square foot per lineal foot.

(2) All systems shall be designed and maintained to reduce orifice clogging and root intrusion.

(k) Seepage Pits shall be designed on sidewall area as the infiltrative surface and are allowed where the following conditions apply:

(1) a qualified professional has determined that the site is unsuitable for other types of dispersal systems due to soil properties or amount of area available at the site;

(2) the bottom of the seepage pit is a minimum of ten feet above seasonal high groundwater level; and

(3) the site meets one of the conditions:

(A) A minimum of ten feet of soil below the bottom of the seepage pit and above the seasonal high groundwater level, impervious layer, or bedrock. All strata to a depth of 10 feet below the pit bottom are free of groundwater in accordance with Category A: Depth to Groundwater Determination Requirements of this Section of this Order, or

(B) When an OWTS has supplemental treatment components designed to meet the performance requirements specified in Category B(b) and Category B of this Order (c), and these requirements are met, a seepage pit may have less than 10 feet of soil below the bottom of the seepage pit, but no less than two feet of soil, or

(C) When an OWTS has supplemental treatment components designed to meet the performance requirements specified in Category B(b) and Category B (c)(1) of this Order, a seepage pit may have less than two feet of soil beneath the bottom of the seepage pit.

(l) Evapotranspiration and infiltration (ETI) systems shall be designed such that evaporation and infiltration exceed the design waste flow combined with a 25-yr return rate precipitation event on an annual, monthly, and seasonal basis. ETI systems shall be operated in a manner that prevents

human exposure to wastewater. Measures shall be taken (e.g. fences, signs, etc.) to keep humans, animals and vehicles off the ETI bed.

IV. PROTECTING IMPAIRED WATER BODIES

This section shall apply to any water body that has been designated as impaired due to nitrogen or pathogens pursuant to Section 303(d) of the Clean Water Act but only where a TMDL has been approved that includes a determination that OWTS contribute to the impairment of the water body.

(a) No new OWTS dispersal area shall be constructed or operated within 600 linear feet [in the horizontal (map) direction] of the edge of the river bank, lake, or the mean high tide unless one of the following applies:

(1) where the waterbody is listed as impaired due to nitrogen, OWTS meets the performance requirements for supplemental treatment contained in ¶b and ¶d of Category B in this Order.; and/or

(2) where the water body is listed as impaired due to pathogens, OWTS meets the performance requirements for supplemental treatment contained in ¶b(1) and ¶c of Category B or ¶c of Category C in this Order.

(b) Unless modified or exempted pursuant to (c) or (d), or (e), owners of existing OWTS dispersal area within 600 linear feet [in the horizontal (map) direction] of the edge of the river, lake or mean high tide shall obtain a report of inspection by a qualified professional within one year of the effective date of these regulations or within one year after the effective date of a TMDL that includes a determination that OWTS contribute to impairment of the water body, whichever is later.

(1) The inspection shall include but not be limited to:

(A) a determination of whether the OWTS is discharging to the surface;

(B) a determination of whether the OWTS complies with the depth to seasonal high groundwater requirements of this Chapter;

(C) for a water body impaired for pathogens, a determination of whether Escherichia coli in the OWTS discharge is reaching groundwater; and

(D) for a water body impaired for nitrogen, a determination of whether nitrogen exceeding 10 mg/l is reaching groundwater;

(E) In the absence of any determination required pursuant to (B), (C) or (D), the OWTS will be deemed to contribute to the impairment of the water body

(2) The OWTS owner shall submit the report of the inspection to the Regional Water Board within 30 calendar days of the completion of the inspection.

(3) Where a determination is made by a qualified professional that an OWTS discharge of Escherichia coli bacteria or nitrogen exceeding 10 mg/l is reaching groundwater, the owner of

the OWTS shall have four years following the date of the determination to meet the applicable requirements of (a).

(c) Adoption or amendment of a TMDL may alter the 600-foot distance requirement or compliance dates in (a) and (b).

(d) This Section does not apply to impaired waters where, prior to the effective date of this Chapter, the Regional Water Board has adopted a TMDL requiring implementation of a wastewater management plan. The wastewater management plan must include methods to reduce the OWTS pollutant contribution to the impaired water body, a plan for water quality monitoring, and a program for the repair or replacement of existing OWTS. The wastewater management plan must be designed to result in either elimination of the impairment or the reduction of the contribution of OWTS to the impairment.

(e) The requirements contained in this Section shall not apply to OWTS owners who commit by way of a legally binding document to connect to a centralized wastewater collection and treatment system regulated through WDRs as specified within the following timeframes:

(1) The owner must sign the document within forty-eight months of the effective date of this Chapter or the effective date of a TMDL, whichever is later.

(2) The specified date for the connection to the centralized community wastewater collection and treatment system shall not extend beyond nine years following a Regional Water Board determination made pursuant to this Section.

I, Clerk to the State Water Board, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the State Water Resources Control Board on **Month, Day, Year**.